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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,514	11/30/2000	Michael P Hollier	36-1413	5206

7590

05/09/2003

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EXAMINER

NATNAEL, PAULOS M

ART UNIT

PAPER NUMBER

2614

DATE MAILED: 05/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/701,514

Applicant(s)

HOLLIER, MICHAEL P

Examiner

Paulos M. Natnael

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, the claimed phrase "exceeding **such** tolerance values", is vague because it does not specify what tolerance values are supposed to have been exceeded, rendering the claim indefinite.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **1-4,6-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf et al., U.S. Pat. No. 5,596,364.

Considering claim 1,

a) measuring the actual synchronization errors between the audio and visual elements of the stimulus is met by audio-visual synchronization processor 160, Fig.6, which outputs audio-visual sync value S_{av}. (col. 12, lines 60-64)

c) generating a measure of subjective quality from said errors and characteristics is met by the disclosure "Subjective human test panel results are generated for a variety of audio-video test samples and objective test results are also generated by the apparatus.." (See Abstract).

Except for;

b) identifying characteristics of audio and visual cues in the stimulus;

Regarding b) Wolf et al. discloses the perception-based audio visual synchronization measurement system wherein "Subjective human test panel results are generated for a variety of audio-video test samples and objective test results are also generated by the apparatus and measurement of audio visual synchronization are conducted." (see Abstract) The audio-visual synchronization processor 160, Fig.6, measures the synchronization S_{av} 165 by measuring the audio and video delays.

Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Wolf et al. by identifying the characteristics of the audio and visual cues, because analysis and measurement of the audio-visual synchronization would not be done without initially identifying the characteristics of the audio and visual cues.

Considering claim 2, the claimed wherein the characteristics of the audio and visual cues are used to generate one or more synchronization error tolerance values.

Regarding claim 2, see rejection of claim 1 (a).

Considering claim 3, a method as claimed in claim 2, wherein the audio-visual stimulus is monitored for occurrences of synchronization errors exceeding such tolerance values, is met by the disclosure that "Preferably, the time alignment processor 34 only computes the video delay (d.sub.v) when motion is present in the source video. When there is no motion in the source video, the video delay need not be measured. The standard deviation of the x.sub.2 (t.sub.N) time series is used to determine the amount of motion in the source video, and hence serves as a useful method for determining the threshold below which there is no motion." (see col. 9, lines 46-53; see also rejection of claim 1(a)).

Considering claim 4, a method according to claim 3, wherein the means generating the stimulus is controlled to maintain the synchronization in a predetermined relationship with the said tolerance values.

Regarding claim 4, see rejection of claim 3.

Considering claim 6, apparatus for determining the subjective quality of an audio-visual stimulus, comprising

a) means for measuring the actual synchronization errors between the audio and visual elements of the stimulus, is met by audio-visual synchronization processor 160, Fig.6. (col. 12, lines 60-64)

c) means for generating a measure of subjective quality from said synchronization errors and characteristics, is met by the disclosure "Subjective human test panel results are generated for a variety of audio-video test samples and objective test results are also generated by the apparatus.." (See Abstract).

Except for;

b) means for the identification of characteristics of audio and visual cues in the stimulus;
Regarding b), see rejection of claim 1(b).

Considering claim 7, apparatus according to claim 6, wherein the means for identifying cue characteristics generates one or more synchronization error tolerance values.

Regarding claim 7, see rejection of claim 3;

Considering claim 8, apparatus as claimed in claim 7, comprising means for monitoring the audio-visual stimulus for occurrences of synchronization errors exceeding said tolerance values.

Regarding claim 7, see rejection of claim 3;

Considering claim 9, apparatus according to claim 8, comprising means for controlling the means generating the stimulus to maintain the synchronization in a predetermined relationship with the said tolerance values;

Regarding claim 2, see rejection of claim 4.

4. Claims **5 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf et al., U.S. Pat. No. 5,596,364, ~~in view of Bickmore et al., U.S. Pat. No. 6,466,213.~~

*Unintentionally error!
included*

Considering claim 5, wherein the resulting measure of subjective quality is used to control the operation of an avatar animation process;

Regarding claim 5, Wolf et al. discloses "The video portion of the invention may be used to measure the video quality and video delay of transmission channels. The video may include moving images as well as still images." (col. 1, lines 16-19) Wolf et al. does not specifically disclose whether or not the result of the measurement of subjective quality is to control the operation of an avatar animation process. However, Examiner takes Official Notice in that it is well known in the art that an avatar or character animation processing requires the synchronization of the audio/voice of the character with the character's movements.

Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Wolf et al. by providing an avatar or character animation processing capability in order to be able to control more systems and enhance the usefulness of the system.

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Considering claim **10**, the apparatus according to claim 9, further comprising animation process means controlled by the subjective quality measurement means to generate an animated image;

Regarding claim 10, see rejection of claim 5.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wolf et al., U.S. Pat. No. 5,446,492 discloses a perception-based video quality measurement system.

Cooper, U.S. Pat. No. 4,313,135 discloses the method and apparatus for preserving or restoring audio to video synchronization.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 6:30am -3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

A handwritten signature in black ink, appearing to read 'Michael H. Lee', with a stylized, looping flourish at the end.

MICHAEL H. LEE
PRIMARY EXAMINER

Paulos Natnael

May 1, 2003

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